UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/765,957	01/19/2001	Bruce E. Kaskel	07844-416001 / P380	9167

21876   7590   05/22/2003

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EXAMINER
JANKUS, ALMIS R

ART UNIT	PAPER NUMBER
2671	

DATE MAILED: 05/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _19 January 2001_ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-15_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-6 and 9-15_ is/are rejected.

7)☒ Claim(s) _7 and 8_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) ☐ Notice of Informal Patent Application (PTO-152)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .	6) ☐ Other:

DETAILED ACTION

1.   Claims 1-15 are presented for examination.

2.   The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this Office

action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act

of 1999 (AIPA) and the Intellectual Property and High Technology Technical

Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior

to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3.   Claims 1-6 and 9-15 are rejected under 35 U.S.C. 102(e) as being

anticipated by Knittel et al.

With respect to claim 1, Knittel et al. teaches the claimed identifying an error

tolerance, at column 10 lines 53-54 where the error tolerance is whatever precision is

desired; selecting a starting point and a set point on a curve defined by the function, at

figure 12 with the starting point being Guess 1 and the set point being the next power of

2 number; defining a linear step from the start point to the set point, at column 10 lines

19-23; calculating a maximum error between the linear step and the curve, at column

10 lines 24-27; if the maximum error is less than or equal to the error tolerance,

approximating a portion of the gradient corresponding to the linear step with the linear

step, at column 10 lines 37-38 (item 5.) and at column 10 lines 53-54; if the maximum

error is more than the error tolerance, selecting a new set point on the curve closer to

the starting point and repeating the calculating step and error checking steps, at column

10 lines 31-36.

Claim 2 further requires the first set point selected to be an end point of the

curve. Knittel et al. Teaches this at figure 12.

Claim 3 further requires the new set point selected to be half the distance

between the set point and the starting point. Knittel et al. Teaches this at column 10

lines 31-36.

Claim 4 further requires the step of approximating the portion of the gradient to

include determining if the set point is an end point for the curve; if the set point is not an

end point for the curve, setting the set point as a new starting point and continuing the

process including selecting a new set point; else, ending the process and approximating

the gradient using the defined linear steps. Knittel et al. Teaches this at figure 12 and at

column 10.

Claim 5 further requires the new set point to be selected using the calculated

maximum error.   Knittel et al. Teaches this at column 10 lines 48-52.

Claim 6 further requires the new set point to be selected as being a point that

corresponds to a linear step having a maximum error equal to the error tolerance.

Knittel et al. Teaches iterating until this condition is reached, at column 10.

Claim 9 further requires the error tolerance to be a visual tolerance. Knittel et al.

teaches this at column 1 lines 15-18 as lighting values using gradient magnitude

vectors.

Claim 10 further requires using Newton's Method to select a set point on the

curve to minimize the error between an approximation produced by the method and the

curve. Knittel et al. teaches this at column 10 lines 12-16.

Claim 11 is similar to claim 1 but requires selecting an optimal number of set

points on a curve defined by the function. Knittel et al. Teaches the claimed selecting

as iterating until the optimal number of set points is achieved.

Claim 12 is similar to claim 11 but requires Newton's Method, which is taught at

Knittel et al. at column 10; and where each linear portion is defined by two linear stops,

with continued iteration. Knittel et al. Teaches this at column 10.

Claims 13, 14, and 15 are similar to claims 1, 11, and 12 respectively and further

require a computer program stored on a tangible medium. Knittel et al. Teaches this at

columns 1-2.

4.   Claims 7 and 8 are objected to as being dependent upon a rejected base

claim, but would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims.

5.   Any inquiry concerning this communication or earlier communications from

the examiner should be directed to Almis R Jankus whose telephone number is 703-

305-9795. The examiner can normally be reached on M-F, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Mark Zimmerman can be reached on 703-305-9798. The fax phone

numbers for the organization where this application or proceeding is assigned are 703-

308-6606 for regular communications and 703-308-6606 for After Final

communications.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is 703-305-

4700.

AJ
May 19, 2003
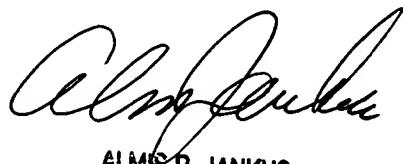
ALMIS R. JANKUS
PRIMARY EXAMINER